CIVIL QUALITY CONSULTANTS & ENGINEERS

(Buildings Geo-Tech & Highway Materials Testing Laboratory)
An ISO 9001: 2008 Certified Company

JAS-ANZ
ISO 9001:2008 CERTIFIED

No: CQCE/BBMP/RM/W.No.71/2017-18 09.10.2017

DETERMINATION OF FLAKINESS INDEX & ELONGATION INDEX OF COARSE AGGREGATES

	Executive Engineer, Dasarahalli Division, BBMP, Bangalore.
ncy	**Sri. R. Mangalraj,** Contractor, Bangalore.
e of Work	Improvements to roads and drains at Bhuvaneshwari Nagar Ward No 14 Bagalagunte, BBMP, Bangalore.
nical Reference	IS 2386(Part 1) 1963 (RA 2007)
e of Mix	Bituminous Concrete
e of Testing	09.10.2017

Result : Flakiness Index = 11.32%

Elongation Index = 14.48%

lt : Combined Flakiness & Elongation index 25.80%

ments:
Maximum allowable Flakiness & Elongation Index for Bituminous Concrete is 30%

e:
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The results indicated above are based on the tests carried out on the samples recieved in the laboratory
Any Query regarding the report must be reported within 15 days from the date of testing.

For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

ಸಹಾಯಕ ಕಾರ್ಯಪಾಲಕ ಅಭಿಯಂತರ
ಪೂರ್ವವಲಯ ಉಪ-ವಿಭಾಗ
ಬಾಗಲಗುಂಟೆ, ಬಿಬಿಎಂಪಿ
ಬೆಂಗಳೂರು

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No.: CQCE/BBMP/RM/W.No.14/2017-18 09.10.2017

Specific Gravity And Water Absorption Test
IS: 2386 Part III

ient	Executive Engineer, Dasarahalli Division, BBMP, Bangalore.
ency	Sri. R. Mangalraj, Contractor, Bangalore.
me of the Work	Improvements to roads and drains at Bhuvaneshwari Nagar Ward No 14 Bagalagunte, BBMP, Bangalore.
pe of Mix	Bituminous Concrete
te of Testing	09.10.2017

No.	Details	Notation	Test Number			Mean Value
			Test 1	Test 2	Test 3	
1	Weight of aggregate suspended in water with the basket	W_1 g	2025	2021	2024	
2	Weight of basket suspended in water	W_2 g	754	756	755	
3	Weight of saturated aggregate in water	$(W_1 - W_2) = W_3$ g	1271	1265	1269	
4	Weight of saturated surface dry aggregate in air	W_5 g	2018	2019	2017	
5	Weight of water equal to the volume of the aggregate	$(W_5 - W_3)$ g	757	756	758	
6	Weight of oven dried aggregate	W_4 g	2007	2010	2008	
7	Specific Gravity	$W_4/(W_5-W_3)$	2.687	2.666	2.684	2.679
8	Apparent Specific gravity	$W_4/(W_4-W_3)$	2.727	2.698	2.717	2.714
9	Water Absorption	$(W_5-W_4)*100)/W_4$	0.55%	0.45%	0.45%	0.48%

mments:

- Maximum allowable Aggregate Water absorption value for Bituminous Concrete is 2.0%

ote:

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For CIVIL QUALITY CONSULTANTS & ENGINEERS

Authorised Signatory

Office & Laboratory : # 133, Bhuvaneshwarinagar, Dodda Basti Main Road, Bangalore - 560 056.
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Job No.: CQCE/BBMP/RM/W.No.14/2017-18 Date: 10.10.2017

TEST REPORT ON STABILITY OF MIX

Client	:	**Executive Engineer,** Dasarahalli Division, BBMP, Bangalore.
Agency	:	**Sri. R. Mangalraj,** Contractor, Bangalore
Name of the Work	:	Improvements to roads and drains at Bhuvaneshwari Nagar Ward No 14 Bagalagunte, BBMP, Bangalore.
Source of location	:	Hot mix Plant, Bangalore
Type of Mix	:	Bituminous Concrete
Date of Testing	:	10.10.2017

The results of the tests conducted on the bituminous concrete mix sample are as follows:

Sl. No	Description	Test Result 1	Test Result 2	Requirement as per MORTH (Table 500-19)
1	Marshal Stability, Kn	9.49	10.36	9 Kn (min)
2	Marshal flow, mm	3.36	3.61	2 – 4
3	Percent air voids in Mineral Aggregate	13.75	14.64	13 – 15
4	Voids in Compacted Mix	4.76	5.75	3 – 6
5	Percent Voids filled with Bitumen	72.69	73.23	65 - 75
6	Density, g/cc	2.26	2.27	---

Note:

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Job No.: CQCE/BBMP/RM/W.No.14/2017-18 10.10.2017

BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE

CLIENT	Executive Engineer, Dasarahalli Division, BBMP, Bangalore.
AGENCY	Sri. R. Mangalraj, Contractor, Bangalore.
NAME OF THE WORK	Improvements to roads and drains at Bhuvaneshwari Nagar Ward No 14 Bagalagunte, BBMP, Bangalore.
DATE OF TESTING	10.10.2017

BITUMEN CONTENT DETERMINATION

Description	Sample 1	Sample 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	471	471.5
3. Weight of Asphalt and Mineral matter Extracted, g	29	28.5
4. Weight of Mineral Matter, g	-	-
5. Weight of Ash, g	-	-
6. Weight of Bitumen Extracted, g. (corrected)	30.5	31
7. Bitumen content in %	6.10	6.20
8. Average	6.15	

GRADATION AFTER EXTRACTION

TABLE - 1

SIEVE SIZE	Percent Passing, %		JOBMIX
mm	Sample 1	Sample 2	Gradation
19	100.0	100.0	100
13.2	92.3	96.4	79-100
9.5	78.6	84.5	70-88
4.75	64.3	63.4	53-71
2.36	49.6	52.7	42-58
1.18	44.2	38.4	34-48
0.6	32.7	34.2	26-38
0.3	21.2	24.1	18-28
0.15	14.5	16.2	12-20
0.075	6.3	8.1	4-10

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